REMARKS / ARGUMENTS

Claims 1-7 have been rejected under 35 USC 103(a) as being unpatentable over Piersol, Kurt W. ("Object Oriented Spreadsheets: The Analytic Spreadsheet Package," OOPSLA '86 Proceedings, pg 385-390: Sept., 1986; herein "Piersol") in view of Levoy, Marc ("Spreadsheets for Images", Computer Graphics Proceedings, Annual Conference Series pg 139-146; 1994; herein "Levoy") and in further view of Smith (US Pat. No. 6,222,531, filed 12/10/98, herein "Smith").

Applicant has made amendments to the claims, and added new claims, based upon the Examiner's "Response to Arguments". In particular, Applicant has made the differences in Applicant's invention from the above-cite art more explicit in the claims. In fact, all of the differences pointed out by the Examiner have now been made clearly explicit in the claims. Consequently, the claims are now more clearly distinguishable over the cited prior art.

The changes made to the claims relate generally to the fact that the internal data stored in the single method object is not displayed until a spreadsheet cell in which the object is instantiated is selected by a user. Further, it's been made more clear that there is a single data display buffer, the contents of which are displayed under a partially transparent spreadsheet grid. In addition, it's made more explicit that the internal data of only one single method

object is displayed at one time under the partially transparent spreadsheet grid.

These changes were made in analogous ways in claims 1-3.

Claim 4 was amended to further emphasize that the partially transparent electronic spreadsheet is adjustably transparent, and is adapted so as to allow a continuous range of adjustments to transparency.

New claims 9-17 were added to further elaborate on distinctions over the prior art.

Due to distinctions made more clear and explicit in currently amended claims 1-4, and in new claims 9-17, the arguments advanced by the Examiner regarding single method objects, single member functions, single values, and related issues, have been rendered moot. Applicant respectfully reserves the right to pursue these issues in possible continuation applications.

In particular, and in view of amendments to the claims made herewith, combining Piersol, Levoy, and Smith is not taught, suggested, or motivated by any of these references, alone or in combination. Even if they were to be combined, the result would not be Applicant's invention as now claimed herein, because each reference fails to remedy the deficiency of the combination of the other two. Further, it would require a degree of experimentation that rises to the level of invention to combine these references and whatever addition references that would be necessary to remedy the deficiency that remains after combination thereof. Accordingly, these references fail to render Applicant's invention, as set

forth in amended claims 1-7, obvious under 35 USC 103(a). These assertions will be now supported in detail herein below, as they relate to the amendments made to the claims.

The Examiner admits that "Piersol does not explicitly teach a data display buffer displaying its contents under a transparent grid". (Note that claim 1 has been amended to make it more clear that the spreadsheet claimed by Applicant includes a single display buffer.) Applicant accordingly asserts that Piersol does not teach a single data display buffer displaying its contents under a partially transparent grid.

The Examiner asserts that "Levoy teaches a data display buffer that displays the data content of an object, the content being displayed in the buffer when the cell corresponding to the object is selected", citing page 6, Fig. 4; and page 1, col. 1, paragraph 3. However, Fig. 4 shows how "graphical objects" such as images ... are **displayed in miniature** inside each cell. Thus, **each cell** has an image display buffer associated with it. By contrast, Applicant's invention employs only a single display buffer associated with the spreadsheet **grid** for display under the spreadsheet **grid**, as shown in Figs. 1-6, and claimed in amended claim 1.

Further, double clicking on (selecting) a cell **brings up** a **"full-size"** object, as stated on page 1, col. 2, paragraph 3, lines 3-5. By contrast, graphical objects in Applicants invention are **not** visible to a user until he/she selects a cell, whereupon the image contained therein appears **below** a partially transparent

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spreadsheet that contains the selected cell, as required by amended claims 1-3, and all claims dependent thereon.

Moreover, the "full size" object is **opaque**, thereby blocking at least part of the spreadsheet from view by a user since it is placed **above** the spreadsheet in Fig. 4. Likewise, the "Emacs" window also obscures the user's view of the spreadsheet below.

The Examiner then asserts that it would have been obvious to combine the teachings of Levoy with the invention disclosed by Piersol to provide a user with different viewing options, such as creating a separate display buffer containing a larger version of said image. Yet, combining the teaching of Levoy with the teaching of Piersol would not result in Applicant's invention in that both Levoy and Piersol teach a spreadsheet that shows multiple images simultaneously, resulting in a complex and possibly confusing display. Levoy adds to the confusion by covering up some of the images with an opaque larger duplicate image and even an opaque Emacs window.

By contrast, Applicant's spreadsheet shows only a selected image, all the other image data stored in other single method objects instantiated in other cells not being visible under the spreadsheet grid until being selected by a user. It is now more explicit in the invention of amended claim 1 that only a single image is displayed under the spreadsheet grid, since the second element of amended claim 1 calls for "a **single** data display buffer, the data contents of which are displayed under a partially transparent spreadsheet grid". Thus, since combining

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Levoy and Piersol would result in a departure from Applicant's invention as now claimed, it would not be obvious to combine them to obtain Applicant's invention.

The Examiner admits that "Piersol and Levoy do not explicitly disclose the data contents as being displayed under a transparent spreadsheet grid". The Examiner then asserts that "Smith teaches a graphical user interface in which portions of the display may be transparent at one time". In fact, in Smith, "transparent" means **invisible**, i.e., "not displayed" (col. 2, line 28). By contrast, Applicant's spreadsheet grid is "partially transparent", as set forth in amended claim 1, and as shown in Figs. 1-6 of Applicant's specification.

Further, in Smith, the position of the pointer determines which portion of the grid becomes blocked by an opaque control, and which part becomes visible due to a transparent control. This feature shows that visibility of the grid is determined by the position of a cursor or pointer. (see, for example, col. 7, lines 40-52) By contrast, Applicant's partially transparent grid is always visible, regardless of the position of the cursor, and regardless of which cell is selected, as now claimed more explicitly in new claims 9 and 15.

Smith also teaches a "semi-transparent" grid at col. 8, lines 17-18, in cooperation with an opaque element 610 under a cursor 606, wherein the opaque element 610 covers a plurality of cells of the semi-transparent grid (see col. 8, lines 25-26), "such that only these entries are visible". Thus, the transparency of the grid of Smith changes with the position of the cursor, whereas in Applicant's invention, the transparency of the grid is independent of cursor position, as claimed in new claims 9, 11, and 13. Instead, in Applicant's

invention, the position of the cursor over a cell selects that cell such that the image data (or any data set) stored in the single method object instantiated in that cell is displayed in the "data display buffer ... under a partially transparent spreadsheet grid", as set forth in amended claim 1. Thus, the behavior of the semi-transparent grid of Smith is different from the behavior of the partially transparent grid of Applicant's invention, as now claimed.

Consequently, since the transparency taught by Smith depends on the position of the cursor, which is very different functionality from the functionality taught by Applicant, combining Smith with Piersol and Levoy cannot even possibly result in Applicant's invention. Further, as argued above, even if Smith provided the same partially transparent grid functionality as taught and claimed by Applicant, Smith does not remedy the deficiencies of the combination of Piersol and Levoy.

Moreover, even if the combination of Piersol, Levoy, and Smith did result in Applicant's invention, there is nothing taught, suggested, or motivated by any of these references that would indicate combining them to obtain the now-claimed invention.

Yet further, it's clear, as argued above, that **combining these references would NOT provide Applicant's invention, as now claimed**.

The Examiner asserts that "such a modification would have provided access of an **entire** spreadsheet to a user at an instant instead of covering parts. Yet, this statement is false because, as shown above, Smith teaches that a "semi-transparent" grid at col. 8, lines 17-18, in cooperation with an opaque

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element 610 under a cursor 606, wherein the opaque element 610 covers a plurality of cells of the semi-transparent grid (see col. 8, lines 25-26), "**such that only these entries are visible**". Thus, the modification taught by Smith does NOT provide access to the entire spreadsheet to a user at an instant. By contrast, Applicant's invention as set forth in new claims 15-17 requires that the partially transparent spreadsheet grid be visible in its entirety, regardless of which cell is selected.

Further, since Smith is **not providing even partial transparency**, instead allowing **a portion of the grid to be completely obscured by an opaque portion**, it is also not true that providing the "transparency" of Smith would allow "a user to search for desired data when the user was unsure if the data resided under the area covered by the data buffer", because Smith does not provide transparency over the entire area of the image displayed in the data buffer.

Accordingly, for any and all of the above-explained reasons, the rejection of claim 1 under 35 USC 103(a), and all claims dependent therefrom, is deemed to be overcome.

Claims 2 and 3 were rejected for analogous reasons, and the Examiner responded in an analogous fashion. Accordingly, Applicant asserts that the remarks and arguments applicable to claim 1 are analogously applicable to claims 2 and 3, given that analogous amendments were made thereto. Consequently, the rejection of claims 2 and 3 under 35 USC 103(a) is deemed to be overcome.

Regarding dependent claim 4, it has been amended to make it more clear that in addition to the spreadsheet being adjustably transparent, it "is adapted so as to allow a continuous range of adjustments to transparency".

The Examiner points out that "Smith teaches control that change between states of opaqueness according to a user's selection (e.g. completely opaque to (sic.) completely transparent; col. 2, lines 15-28)." However, it must be noted that the cited text illustrates that Smith toggles between two configurations, a first configuration having three controls that are opaque (col. 2, lines 18-19), and a second configuration having only one of the controls being opaque, the rest being invisible (wholly transparent) (col. 2, lines 20-22). There is no intermediate that could be described as **partially** transparent, as claimed in the herein-amended claims 1-4. Further, in claim 4, where the partial transparency is **adjustable**, the spreadsheet is adapted so as to allow a continuous range of adjustments to transparency.

Instead, the transparency of Smith is more accurately described as **switchable**, as stated by Smith himself, i.e., "The particular event causing the controls to switch between these configurations ..." at col. 2, lines 22-23.

Additionally and alternatively, claim 4 depends from amended claim 3 which is deemed to be allowable, since combining Piersol, Levoy, and Smith would not provide the invention of amended claim 3, nor is there any teaching in Piersol, Levoy, and Smith that would teach, suggest, or motivate such a

combination, as demonstrated above. Consequently, amended claim 4 is

deemed to be allowable, and the rejection of claim 4 under 35 USC 103(a) is

deemed to be overcome.

Regarding dependent claim 5, the Examiner invites the Applicant to

provide evidence or teachings that a game controller has more degrees of

freedom than other common input devices. Referring to Fig. 1 of Applicant's

specification, note that the game controller depicted has eight buttons. By

contrast, a mouse has one button on a Mac, and two buttons on a PC.

Sometimes there is a scroll wheel, to make a maximum of three inputs, in

addition to the x-y position. Likewise, a track ball has a similar input capability.

To further distinguish, a game controller can involve both hands of a user.

By contrast, a mouse and a trackball are one-handed devices.

A game controller is small and portable and simple. By contrast, a

keyboard is not portable, requiring a desk. It is also intimidating, requiring a

knowledge of typing for efficient use. Further, one hand must be removed from

the keyboard to operate the cursor keys. By contrast, both hands stay on a

game controller and can control both cursor position and input values.

Touch pads and point sticks provide only x-y input, and also are used in

conjunction with no more than two switches or buttons. The number of degrees

of freedom are clearly no more than four, and so are clearly less than the eight

degrees of freedom of a game controller.

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Thus, a game controller has more input means than just means for pointing and clicking so as to facilitate more effective manipulation of the features of the advanced electronic spreadsheet of Applicant's invention. It's clear that Smith is teaching away from using a game controller because each of the many listed input devices can merely point and click.

The Examiner asserts that "It was common and typical in the art at the time of the invention to include game controllers among common input devices, yet neither Piersol, Levoy, and Smith teach using a game controller. If the "art" is the art of electronic spreadsheets, Applicant's attorney is not aware of any reference that teaches using a game controller with an electronic spreadsheet, so it is surely not common and typical in the art.

The Examiner points out that "A game controller may have been a type of combination of remote controls, point sticks and mice", yet this is not true, nor is such a combination taught, suggested, or motivated by Piersol, Levoy, and Smith, alone or in any combination.

Further, Applicant's use of a game controller is NOT a standard computer input and pointing device for a spreadsheet, which is usually a tool for business and accounting. Game controllers are standard input and pointing devices for **computer games and video games**. However, keyboard and mouse are the standard input devices for spreadsheets. A game controller is clearly NOT a standard input and pointing device with respect to a spreadsheet. Thus, it is not obvious to use a game controller (usually used for amusement applications) with a spreadsheet (usually used for business applications). In fact, since game

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controllers are usually used for amusement applications such as video games, the art of video games is teaching away from the use of game controllers with spreadsheets.

In addition, or in the alternative, claim 5 depends upon claim 3, deemed allowable as explained above. Accordingly, the rejection of claim 5 under 35 USC 103(a) is deemed to be overcome.

Regarding dependent claim 6, this claim requires that "the selected cell is selected using one of a standard keyboard and a mouse". Smith teaches the use of keyboard and mouse, but does not teach, suggest, or motivate Applicant's invention, alone or in combination with Piersol and/or Levoy. Claim 6 depends upon claim 3, deemed allowable as explained above. Accordingly, the rejection of claim 6 under 35 USC 103(a) is deemed to be overcome.

Regarding dependent claim 7, the Examiner asserts that "Smith teaches the superposition of an object image with a display of a graphical analysis of an object image", as required by claim 7, and cites Fig. 4 of Smith. However, Fig. 4 of Smith merely shows "operations of controls of a computer program displayable within a graphical user interface". Smith fails to show an "object image", as shown in Fig. 5 of Applicant's specification, and Smith fails to show a "graphical analysis of an object image" as also shown in Fig. 5 of Applicant's specification.

In addition, or in the alternative, claim 7 depends upon claim 3, deemed

allowable as explained above. Accordingly, the rejection of claim 7 under 35

USC 103(a) is deemed to be overcome.

Claim 8 has been rejected under 35 USC 103(a) as being

unpatentable over Piersol in view of Levoy and Smith, and further in view of

Mastering Excel 97 4th ed. (herein "Excel"). Claim 8 requires that "the analysis of

the object image is a histogram of the object image". As admitted by the

Examiner, neither Piersol, Levoy nor Smith "explicitly disclose creating a

histogram analysis". However, Excel does show using histograms for graphical

analysis of data. Nevertheless, the histograms are **not superimposed with any**

other image, and in fact, are opaque. For example, Fig. 13.2 shows a

histogram or bar chart that actually is opaque, thereby blocking the user's view of

the spreadsheet. This clearly **teaches away** from Applicant's invention as set

forth in claim 3, for example, that requires "displaying in superimposed

relationship with the machine vision image a partially transparent electronic

spreadsheet including the selected cell". Thus, Excel fails to show a transparent

spreadsheet, as well as a "superposition of an object image and a graphical

representation of an analysis of the object image", as required by claim 7, just as

Piersol and Levoy fail. Moreoever, Smith teaches transparent views of grids

having opaque selected cells (col. 8, lines 15-20), but also fails to show a

transparent grid cooperative with the superposition of images. None of the

references show a partially transparent spreadsheet superimposed upon any

image, whether a single or a superimposed image. Thus, combining Piersol,

Levoy and Smith with Excel fails to provide Applicant's invention. Moreover,

there is nothing in any of these references, taken together or alone, that teaches,

suggests, or motivates combining them in any event.

In addition, or in the alternative, claim 8 depends upon claim 7, which

depends from claim 3, deemed allowable as explained above. Accordingly, the

rejection of claim 8 under 35 USC 103(a) is deemed to be overcome.

The prior art made of record and not relied upon has been reviewed and does not appear to present an impediment to allowance of the present application.

Accordingly, Applicants assert that the present application is in condition for allowance, and such action is respectfully requested. The Examiner is invited to phone the undersigned attorney to further the prosecution of the present application.

Respectfully Submitted,

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